

NPN Transistors

KX2000N

■ Features

- High Voltage Transistors
- Pb-Free Packages are Available

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	250	V
Collector - Emitter Voltage	V_{CE0}	180	
Emitter - Base Voltage	V_{EB0}	5	
Collector Current - Continuous	I_C	0.2	A
Collector Power Dissipation	P_C	0.15	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = 100 \mu\text{A}$, $I_E = 0$	250			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = 1 \text{ mA}$, $I_B = 0$	180			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu\text{A}$, $I_C = 0$	5			
Collector-base cut-off current	I_{CB0}	$V_{CB} = 120 \text{ V}$, $I_E = 0$			100	nA
Emitter cut-off current	I_{EB0}	$V_{EB} = 4 \text{ V}$, $I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50 \text{ mA}$, $I_B = 5 \text{ mA}$			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50 \text{ mA}$, $I_B = 5 \text{ mA}$			1.0	
DC current gain	$h_{FE(1)}$	$V_{CE} = 5 \text{ V}$, $I_C = 10 \text{ mA}$	100		250	
Transition frequency	f_T	$V_{CE} = 5 \text{ V}$, $I_C = 10 \text{ mA}$, $f = 30 \text{ MHz}$	100		300	MHz

* Pulse Test: Pulse Width = $300 \mu\text{s}$, Duty Cycle=2.0%.

■ Classification of h_{FE}

Marking	20N
Range	100-250

